

3IT09 COMPUTER SKILL LAB – I

Course Pre-requisite: Basic knowledge of any Programming Language

Course Objectives:

1. To be able to program design with functions using Python.
2. To understand data and information processing techniques.
3. To understand to Design a program to solve the problems.
4. To be able to access database using python programming.
5. To be able to design web applications using python programming.

Course Outcomes: On completion of the course, the students will be able to

1. Describe the Numbers, Math functions, Strings, List, Tuples and Dictionaries in Python
2. Interpret different Decision Making statements, Functions, Object oriented programming in Python
3. Summarize different File handling operations
4. Explain how to design GUI Applications in Python and evaluate different database operations
5. Develop applications using Django framework or Flask

List of Experiments:

This is a sample list of experiments, **minimum 12 experiments** are to be performed covering the entire syllabus. At least two experiments should be beyond syllabi based on learning of syllabi (Apply)

1. Write python program to store data in list and then try to print them.
2. Write python program to print list of numbers using range and for loop
3. Write python program to store strings in list and then print them.
4. Write python program in which an function is defined and calling that function prints Hello World.
5. Write a python script to print the current date in the following format “Sun May 29 02:26:23 IST 2017”
6. Write a program to create, append, and remove lists in python.
7. Write a program to create, concatenate and print a string and accessing sub-string from a given string.
8. Write a program to demonstrate working with tuples in python.
9. Write a program to demonstrate working with dictionaries in python.
10. Write a python program to find largest of three numbers.
11. Write python program in which an function(with single string parameter) is defined and calling that function prints the string parameters given to function.
12. Write python program in which an class is define, then create object of that class and call simple print function define in class.
13. Write a Python script that prints prime numbers less than 20.
14. Write a python program to find factorial of a number using Recursion.
15. Write a python program to define a module to find Fibonacci Numbers and import the module to another program.

16. Write a script named copyfile.py. This script should prompt the user for the names of two text files. The contents of the first file should be input and written to the second file.
17. Write a program that inputs a text file. The program should print all of the unique words in the file in alphabetical order.
18. Write a Python class to convert an integer to a roman numeral.
19. Write a Python class to implement pow(x, n)
20. Write a Python class to reverse a string word by word.
21. Accessing and working with databases using Python.
22. Create data frame from .csv files and operations on it.
23. Plotting various graphs using Python.
24. Developing basic GUI using Python.
25. Developing web applications using Django framework or Flask

Reference Books :

1. “Core Python Programming”, R. NageswaraRao, dreamtech press.
2. “Python Programming A Modular Approach With Graphics, Database, Mobile and Web Applications”, Sheetal Taneja, Naveen Kumar, Pearson.
3. Python Web Development with Django By Jeff Forcier, Paul Bissex, Wesley J Chun, Addison-Wesley Professional.
4. Kenneth A. Lambert, The Fundamentals of Python: First Programs, 2011, Cengage Learning
5. Allen B. Downey , “ Think Python: How to Think Like a Computer Scientist”, Second Edition, Shroff/O’Reilly Publishers
6. John V Guttag. “Introduction to Computation and Programming Using Python”, Prentice Hall of India.

4IT09 COMPUTER SKILL LAB – II

Minimum **Eight** experiments/programming assignments must be completed based HTML, CSS and JAVA SCRIPT

5IT 09 COMPUTER SKILLS LAB – III

Pre-requisites -Before proceeding with this Angular tutorial course, students should have a basic understanding of HTML, CSS, and JavaScript, basic oops concept.

Course Outcomes:

- Programming and Application Development using Angular and TypeScript
- Handling Project Files and TypeScript Compilation, Components Templates Services Directives
- Data Rendering, Events Handling, Building Reusable Components
- Controlling Rendering of HTML, Creating Template Driven Forms and Model Driven Forms
- Using Observables and Communicating with Server using APIs
- Building Single Page Application with Routing and Developing applications integrating CRUD with Firebase

Minimum eight experiments/programming assignments covering the following aspects:

1. Introduction to Angular
2. Angular Environment Set up
3. Creating Angular Project and basic introduction about project structure / directory.
4. Understanding Components and how to create components in Angular
5. Understanding of data binding in Angular component and view files.
- 6 Understanding and use of different types of Angular directives
7. Understanding of modules and routing in angular.
8. Understanding of services and component 's life cycle method
9. Understanding of package. json file in Angular Project.
10. Understanding of how to fetch data from the API using services.

List of Experiment

1. Introduction to Angular and TypeScript
2. Working with Project Files and TypeScript Compilation in Angular.
3. Demonstration of Components, Templates, Services, and Directives
4. Data rendering and events handling in angular
5. Building reusable components
6. Controlling and rendering of HTML
7. Designing and working with Template Driven Forms
8. Designing and working with Model Driven Forms
9. Working with Observables
10. Communicating with Server using APIs
11. Building Single Page Application with Routing
12. Performing CRUD with Firebase in Angular

6IT09 - COMPUTER SKILL LAB- IV

Minimum **Eight** experiments/programming assignments must be completed based on the syllabus covering each of the units of Artificial Intelligence 6IT03